AN6320N

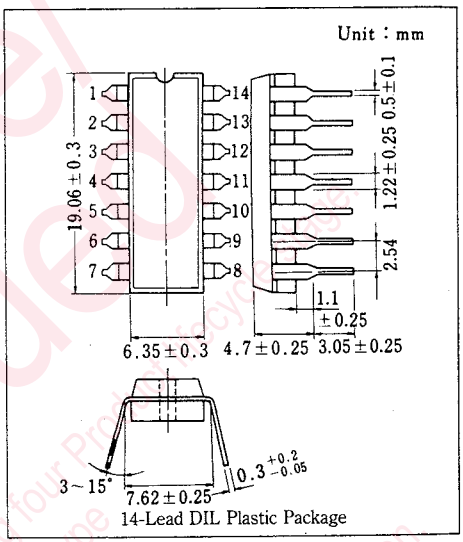
VTR Head Amplifier Circuit

■ Outline

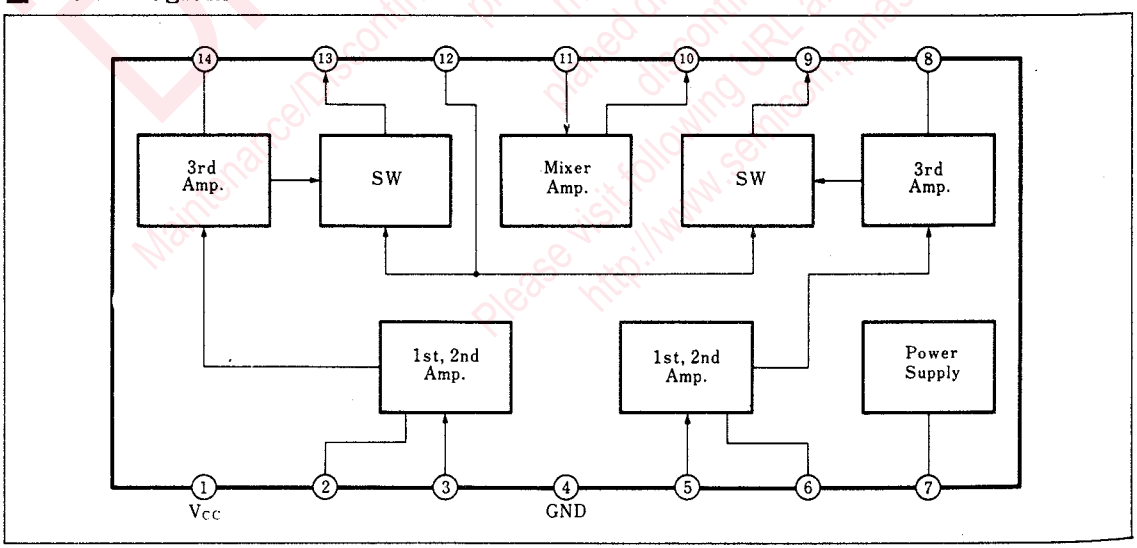
The AN6320N is an integrated circuit designed for VTR's head amplifier.

■ Features

- The functions consist of:
  - Video signal pre-amplifier circuit
  - Filter amplifier circuit
  - Mixer amplifier circuit
  - Head switch over circuit
- Low noise head amplifier
- Supply voltage 9V or 12V



■ Block Diagram



■ Absolute Maximum Ratings (Ta=25℃)

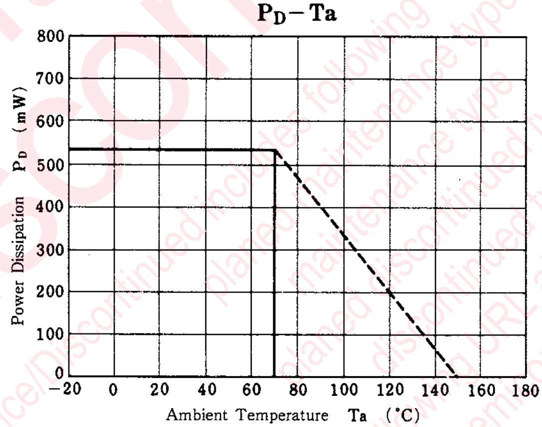
Item	Symbol	Rating	Unit
Supply voltage	V_{CC}	14.4	V
Power dissipation	P_D	530	mW
Operating ambient temperature	T_{opr}	−20～+70	℃
Storage temperature	T_{stg}	−40～+150	℃

■ Electrical Characteristics (Ta=25℃)

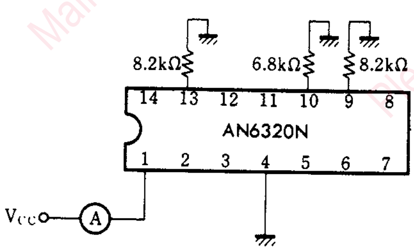
Item		Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Circuit current		I_1	1	V_{CC}=12V	26		44	mA
Voltage gain (Head Amp.)	1	$G_{V(1)}$	2	V_{CC}=12V, f=4 MHz	50.5		62.5	mA
	2	$G_{V(2)}$	2	v_i=1 mV_{P-P}	50.5		62.5	mA
Voltage gain (Mix. Amp)		$G_{V(3)}$	3	V_{CC}=12V, f=4 MHz, v_i=0.3V_{P-P}	10		14	dB
2nd harmonic distortion (Head Amp.)	1	$D_{2f(1)}$	4	V_{CC}=12V, f=4 MHz			−40	dB
	2	$D_{2f(2)}$	4	v_i=1 mV_{p-p}			−40	dB
Noise voltage referred to input	1	$V_{ni(1)}$	5	V_{CC}=12V, 1 MHz BPF used			2	μV_{rms}
	2	$V_{ni(2)}$	5				2	μV_{rms}
Sensitivity(1, 2 Switch)		S	6	V_{CC}=12V	300			μA

Note) Operating Supply Voltage Range $V_{cc(opr.)}$=8.8～13V

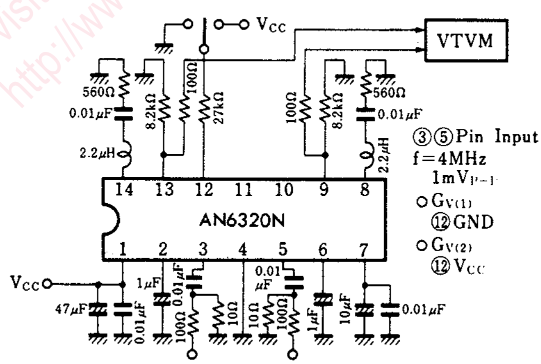
$P_D - Ta$



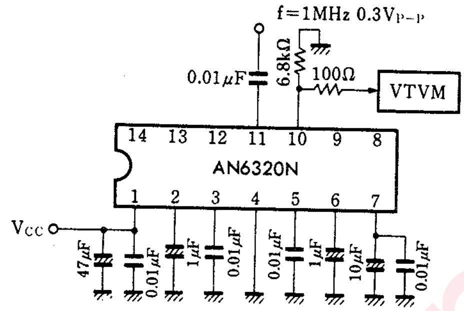
Test Circuit 1 (I_1)



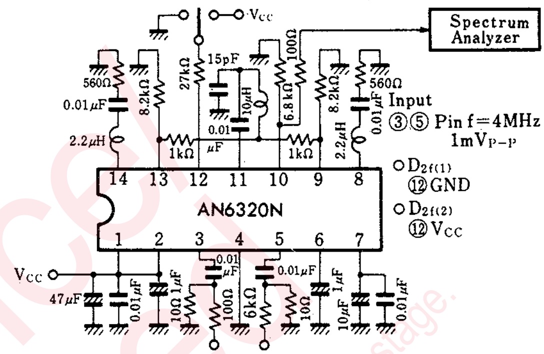
Test Circuit 2 ($G_{V(1)}$, $G_{V(2)}$)



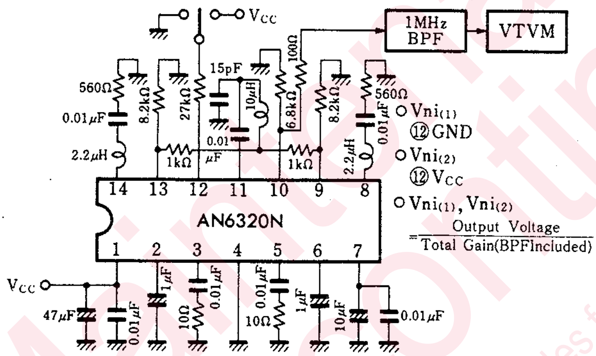
Test Circuit 3 ($G_{V(3)}$)



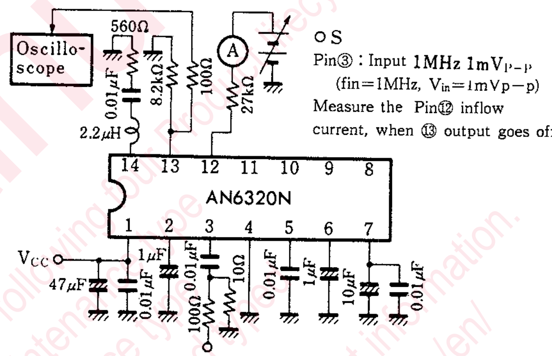
Test Circuit 4 ($D_{2f(1)}$, $D_{2f(2)}$)



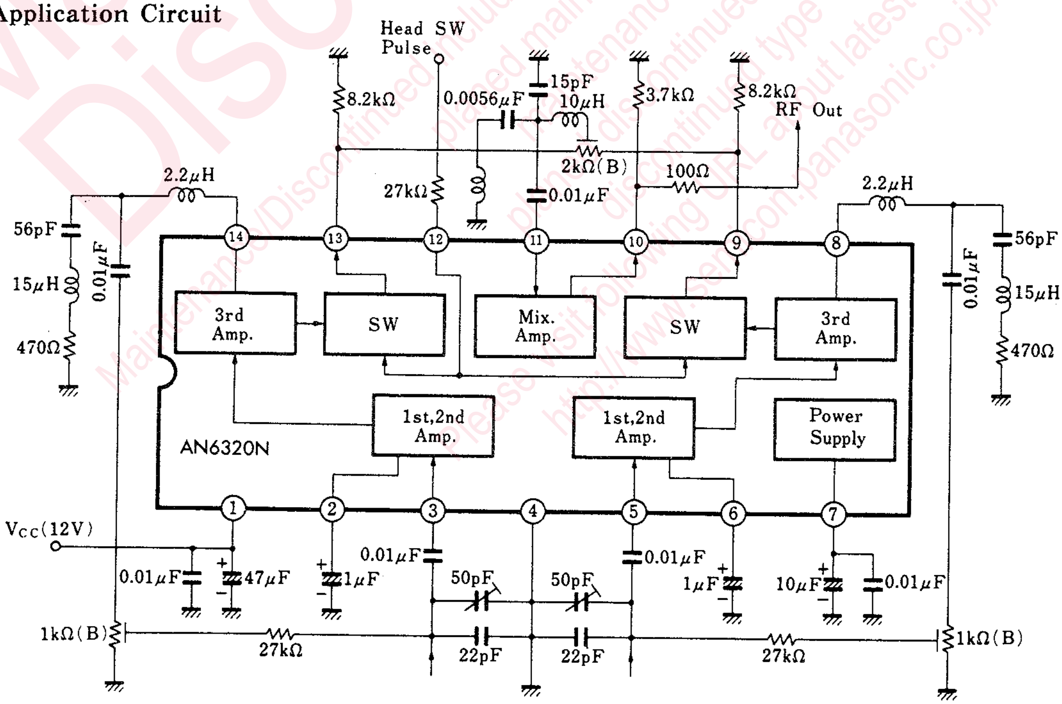
Test Circuit 5 ($V_{ni(1)}$, $V_{ni(2)}$)



Test Circuit 6 (S)



■ Application Circuit



■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	V_{CC}	8	Damping
2	1 st Amp.	9	Output
3	Input	10	Mix. Amp. Output
4	GND	11	Mix. Amp. Input
5	Input	12	Head SW Input
6	1 st Amp.	13	Output
7	Stabilized Valtage	14	Damping

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